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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,357	12/29/2000	Aleksandra Kolosowsky	H17-26086 US	8831
21186	7590	10/22/2003	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			CRUZ, MAGDA	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/751,357	KOLOSOWSKY, ALEKSANDRA	
	Examiner	Art Unit	
	Magda Cruz	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 and 32-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8 and 32-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-8 and 32-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. Regarding claims 2 and 37, the applicant failed to comply with the definition of "seamlessly". By definition, a seam is a line, groove or ridge formed by the abutment of edges (See Merriam-Webster's Collegiate Dictionary, Tenth Edition, 1999, p. 1053). Therefore, the applicant failed to disclose "a plurality of seamlessly tiled optical faceplates" (see Figure 7).
- b. Regarding claim 32, the applicant failed to disclose the optical faceplates "tiled without a visible seam" (see Figure 7).
- c. Claims 3-8, 33-36 and 38-44 fall with parent claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2-8, 32-38 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai, et al. in view of Adventures in Fiber Optics Kit by Industrial Fiber Optics, Inc.

Sakai, et al. (US Patent Number 5,502,457) discloses a projection screen (1a, 2a) for displaying an image from an image source (column 2, lines 51-55), the screen (1a, 2a) comprising a first diffusing assembly including a pre-screen (10, 11) comprising a plurality of seamlessly tiled optical faceplates (column 3, lines 13-16 and 63-64), and a second diffusing assembly (3) comprising a diffused rear projection screen (3a, 3b), the faceplate (10, 11) being positioned to receive an image from the image source and to further diffuse said image (column 2, lines 55-61); an anti-reflection coating on a viewing side of said projection screen (column 4, lines 37-42). The optical faceplate (10, 11) comprises fibers having a numeric aperture of between about 0.2 and about 0.66 (column 7, lines 35-36 and 42-44); wherein the optical faceplates (10, 11) are tiled without a visible seam (column 3, lines 13-16), having a fiber size on a scale of nanometers (column 5, lines 1-2; e.g. $30\text{ }\mu\text{m} = 3 \times 10^4\text{ nm}$), and a significantly small pitch (column 6, lines 8-10 and 57-58).

Sakai, et al. teaches the salient features of the present invention, except optical faceplates made of fibrous crystals, wherein said fibrous crystal is selected from a group consisting of crystals not found in nature, selected from the group consisting of Ulexite. However, Sakai et al. discloses an optical fiber (5) as part of the optical faceplates (10, 11).

Adventures in Fiber Optics Kit by Industrial Fiber Optics, Inc. discloses an optical faceplate of fibrous crystal (page 9, lines 26-28), wherein the material of said optical faceplate (page 10, last paragraph) is Ulexite (page 9, lines 14-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the optical faceplate disclosed by Adventures in Fiber Optics Kit by Industrial Fiber Optics, Inc. in substitution of the optical faceplate disclosed by Sakai et al.'s invention, for the purpose of transferring the image to be displayed (page 9, lines 18-20).

Furthermore, it is well known in the art the development of different methods for growing crystals in a laboratory. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize a lab-grown crystal for the purpose of having the ability and advantage to obtain better quality crystals, than the ones found in nature, and having a steady supply of said crystals.

5. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai, et al. in view of Adventures in Fiber Optics Kit by Industrial Fiber Optics, Inc. as applied to claims 2-8, 32-38 and 42-44 above, and further in view of Bilbro, et al.

Sakai, et al. (US Patent Number 5,502,457) in combination with Adventures in Fiber Optics Kit teaches the salient features of the invention, except a plurality of overlapping light sources, wherein the image source includes a CCD array including a collimated light source. However, Sakai et al. discloses a light source (column 2, lines 51-55).

Bilbro, et al. (US Patent Number 5,974,215) discloses a plurality of overlapping light sources (column 2, lines 17-19), wherein the image source includes a CCD array (18) including a collimated light source (column 3, lines 53-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the light source disclosed by Bilbro, et al. in substitution of the light source from Sakai et al.'s invention, for the purpose of producing substantially seamless images (column 1, lines 66-67).

Response to Arguments

6. Applicant's arguments filed 07/17/2003 have been fully considered but they are not persuasive.

7. The applicant has argued, "Sakai suggests no use or advantages of fibrous crystalline material". However, the examiner doesn't utilize Sakai's reference to overcome said limitation.

8. The applicant has argued, "AFOK has no suggestion of combining multiple sheets of fibrous crystal in any manner or for any purpose". However, AFOK clearly defines that "a fiber optic elements whose width and length are greater than their depth

are often called faceplates” (page 10, lines 37-39) and that “Ulexite is a mineral composed of chains of sodium, water and hydroxide octahedrons linked in endless chains; these chains form the fibrous structure that transmits an image from one side of the rock to the other” (page 9, lines 26-28).

9. The applicant argued “the Office Action proposes that this scale is equivalent to Sakai’s admitted minimum size, because 30 microns equals 30,000 nanometers”. However, the examiner didn’t *propose* this scale, the examiner only utilized a simple conversion of units, which is totally valid. To keep the record clear over this point, attached with this Office Action is a copy of Physics, Second Edition, Volume 1, by Paul A. Tipler, pages 4-7, with definitions and examples of measuring a quantity involving comparison with some unit value of the quantity, prefixes for common multiples and submultiples of SI units, and examples of conversion units.

10. The applicant has argued, “AFOK suggests nothing as to how - or even whether - Ulexite could be fabricated, or that non-natural grown crystals might have advantages”. However, AFOK discloses, “Ulexite may one day be refined and used commercially” (page 9, lines 46-47).

11. The applicant has argued, “AFOK does not suggest the use of Selenite, Artinite and Aragonite as in claim 7”. However, the language utilized on claim 7 recites “the material is selected from the group consisting of Ulexite, Selenite, Artinite and Aragonite”; therefore, AFOK meets this limitation.

12. The applicant has argued, “Bilbro shows overlapping fiber bundles, not overlapping light sources”; however, Bilbro teaches that said fiber bundles (14) are part

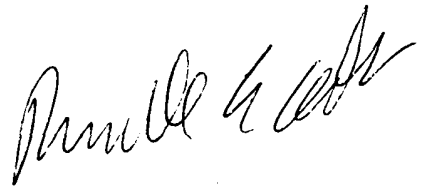
of the light source which includes a CCD chip (19) to which light is directed via each respective tapered optical fiber bundle (column 3, lines 65-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (703)308-6367. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703)308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.



Magda Cruz
Patent Examiner
October 18, 2003